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Eduardo Jimenez

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EXAMINER

GUIDOTTI, LAURA COLE

ART UNIT

PAPER NUMBER

3723

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/697,213	<b>Applicant(s)</b> JIMENEZ ET AL.	
	<b>Examiner</b> Laura C. Guidotti	<b>Art Unit</b> 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 45,47-49,77 and 79-87 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 45,47-49,77 and 79-87 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 45, 47-48, 77, and 79-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urbush, USPN 3,316,576 in view of Volpenhein, USPN 5,839,148 (see Attachment A).

Urbush discloses a toothbrush comprising a handle (12), a head (18; the head is a conventional toothbrush) connected to the handle by a neck element (14), and a mechanical vibratory device (portions 40, 41, 42, 43) that causes the head to vibrate (via 21; Column 2 Lines 33-39). Regarding claim 77, the mechanical vibratory device is located in the region adjacent to the head (see Figures) and is operatively connected to

an electric power source (Column 1 Lines 9-11; Column 2 Lines 38-39). Urbush utilizes as its head a conventional toothbrush (Column 1 Lines 48-49) and the device is capable of using various sizes and types of conventional toothbrushes in the vibratory portion (Column 1 Lines 13-20). Urbush does not include a head comprising movable elements.

Volpenhein discloses the claimed invention including a head (10) having a first surface (lowermost surface facing downward in Figure 1) and a second surface (uppermost surface facing upward in Figure 1), a first cleaning element extending from the first surface that is non-movable relative to the head (one of the tufts "18" farthest from the handle 30), a second cleaning element extending from the first surface that is non-movable relative to the head (another one of the tufts "18" nearest to the handle 30), a plurality of third cleaning elements disposed between the first and second cleaning elements (14) and being movable relative to the head (see arrow in Figure 1; Column 2 Lines 11-15), and a discontinuity in the form of an opening in the head positioned between an inner end of each of at least one of the plurality of third cleaning elements and a plane defined by the second surface (see Attachment A; the opening is unlabeled but shown in Figure 2, the plane is the plane through which the surface of 16 as shown in Figures 1-2 extends; as portion 12 pivots about 24, an opening between the plane of 16 and a plane of 12 forms), to allow for movement of the at least one of the plurality of third cleaning elements relative to the head (the opening is unlabeled but shown in Figure 2 as being within the brush head where 12 rocks), the discontinuity being defined only by the head and the inner end of at least one of said plurality of third

cleaning elements (see Attachment A; the discontinuity or opening is defined only by the head and the inner end of at least one of the cleaning elements, as shown in the Figures, and then is defined by the inner end of the third cleaning elements as they pivot about 24, it changes geometry as portion 12 pivots). The toothbrush is designed for providing control and cleaning ability of fixed tufts while also providing for the cleaning effectiveness of the movable tufts that follows the contour of the teeth (Abstract). Regarding claim 47, there is at least one additional cleaning element included in an area between the first or second and third cleaning elements (other rows of bristle tufts 18, see Figures). Regarding claim 48, the third cleaning elements comprise movable wipers (the third cleaning elements 14 are tufts of bristles which act as wipers). Regarding claim 79, the discontinuity is on the second surface opposite at least one of the plurality of third cleaning elements (see Figure 2). Regarding claims 80-81, at least one of the plurality of third cleaning elements is movable toward at least one of and each of the first and second cleaning elements (as the third cleaning elements "rock" they move towards one of the first or second cleaning elements and are capable of being movable toward each of the first and second cleaning elements; see directional arrow in Figure 1). Regarding claims 82-84, there is a fourth cleaning element disposed between the first cleaning element and at least one of the plurality of third cleaning elements (the fourth cleaning element is one of the inner tufts 18 between the first cleaning element and the third cleaning elements, see Figures 1-2), at least one of the plurality of third cleaning elements is movable toward at least one of and each of the first and fourth cleaning elements (see Figures 1-2).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute the conventional toothbrush head of Urbush for one having a movable cleaning elements and first and second non-movable cleaning elements, as Volpenhein teaches, so that the toothbrush can resiliently conform to the inner mouth and tooth surfaces of which the toothbrush is cleaning to better aid in the cleaning of teeth and the oral cavity.

2. Claims 85-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urbush, USPN 3,316,576 in view of Volpenhein, USPN 5,839,148 and Flewitt, USPN 5,896,614.

Urbush discloses all elements above, however does not include a head comprising a plurality of movable elastomeric wipers disposed between first and second cleaning elements that are non-movable relative to the head.

Volpenhein discloses all elements above, including the teaching of a head (10) comprising a plurality of movable cleaning elements (14) disposed between first and second cleaning elements (leftmost and rightmost tufts 18 as shown in the Figures) that are non-movable relative to the head. Regarding claims 86-87, the first and second cleaning elements extend from a first surface of the head (the first surface is shown downwards in the Figures) and the discontinuity (the opening in the head 10) is present and visible with reference to the second surface (the surface facing upwards in the Figures) of the head opposite the first (as shown in Figures 1-2). Volpenhein does not disclose that the plurality of movable cleaning elements is elastomeric wipers.

Flewitt teaches a bristle arrangement for a toothbrush wherein there are both cleaning elements of tufts of bristles (14, 15) and a plurality of elastomeric wipers (12 or 13; Column 3 Lines 40-42) disposed between groups of tufts of bristles (Figure 7). These elastomeric wiper cleaning elements are provided to improve the cleaning efficiency in brushing teeth and also are advantageous as they are unlikely to retain moisture that could lead to the growth of bacteria (Column 3 Line 63 to Column 4 Line 5).

It would have been obvious for one of ordinary skill in the art to substitute the conventional toothbrush head of Urbush for one having a movable cleaning elements and first and second non-movable cleaning elements, as Volpenhein teaches, so that the toothbrush can resiliently conform to the inner mouth and tooth surfaces of which the toothbrush is cleaning to better aid in the cleaning of teeth and the oral cavity, and further it would have been obvious for one of ordinary skill in the art to substitute the third cleaning elements of Urbush and Volpenhein for elastomeric wipers, as Flewitt teaches, in order to improve the cleaning efficiency and efficacy of a toothbrush and to inhibit possible bacteria growth on a toothbrush.

3. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Urbush, USPN 3,316,576 in view of Volpenhein, USPN 5,839,148 as applied to claim 48 in view of Halm, US 5,813,079 (herein referred to as Halm '079) and in further view of Halm, US 5,951,158 (herein referred to as Halm '158).

Urbush and Volpenhein disclose all elements mentioned above, however do not disclose that the movable wipers are mounted on a resilient membrane and rotate

towards one another upon application of sufficient force on the toothbrush and away from each other upon release of that force. Volpenhein, however, does state “rocking portion 12 may be movable attached to stationary portion 16 by traditional hinges, pins, living hinges, or the like” (Column 2 Lines 48-50).

Halm ‘079 teaches a toothbrush with a center rigid rocking portion (13, 23, 33) that is movably attached to a stationary head frame (12, 22, 32) and the head having first and second cleaning elements extending from a first surface that is non-movable relative to the head (cleaning elements that wipe 27, Figure 2A) and third cleaning elements that are considered wipers and are movable relative to the head (14, 24, 34), wherein all of the third cleaning elements that are wipers are mounted on a resilient membrane in order to provide a rocking motion (16, 26; Column 2 Line 58 to Column 3 Line 9, Column 4 Lines 59-67, Column 5 Lines 7-17).

Halm ‘158 teaches third cleaning elements or wipers of a central section (46; Figure 4B) mounted on linked carriers (44, 45) to a frame (42) having first and second cleaning elements extending from a first surface that is non-movable relative to the head (see Attachment A that was included in the Office Action of 19 October 2005), wherein the third cleaning elements that are wipers are mounted and linked on a resilient membrane (49) and towards one another upon application of sufficient force on the toothbrush and away from each other upon release of that force in order to assist toward a gentle tooth cleaning action (Figure 4D; Column 5 Lines 27-32).

It would have been obvious for one of ordinary skill in the art to modify the brush head of Urbush and Volpenhein so that the rocking brush carrier having the wipers are



mounted on a resilient membrane, as Halm '079 teaches, in order to provide a material that allows sufficient rocking motion to third cleaning elements or wipers, and further it would have been obvious to modify the brush head of Urbush, Volpenhein, and Halm '079 to further include that the wipers are mounted on a resilient membrane in such away so that the wipers rotate towards one another upon application of sufficient force on the toothbrush and away from each other upon release of that force, as Halm '158 teaches, so that the third elements can be capable of conforming to a tooth surface and assist towards gentle tooth cleaning practice.

#### ***Response to Arguments***

4. Applicant's arguments filed 05 November 2007 have been fully considered but they are not persuasive.

The Applicant argues that the discontinuity of Volpenhein is defined by different elements of the brush of Volpenhein since 12 can move, and more specifically argues that (A) in its static condition, the discontinuity is defined by the head and perimeter edge of 12 (B) in the condition shown in Attachment A, a portion of the discontinuity is defined by the head and the inner end of some cleaning elements, a portion of the discontinuity is defined by the head and the outer end of some cleaning elements, and a portion of the discontinuity is defined by the head and perimeter edge of rocking portion 12.

The Examiner respectfully disagrees. As stated above, Volpenhein discloses a *discontinuity* in the form of an opening in the head *positioned between an inner end of each of at least one of the plurality of third cleaning elements and a plane defined by the*

*second surface* (see Attachment A; the opening is unlabeled but shown in Figure 2, the plane is the plane through which the surface of 16 as shown in Figures 1-2 extends; as portion 12 pivots about 24, an opening between the plane of 16 and a plane of 12 forms), the discontinuity being *defined only by the head and the inner end of at least one of said plurality of third cleaning elements* (see Attachment A; the discontinuity or opening is defined only by the head and the inner end of at least one of the cleaning elements, as shown in the Figures, and then is defined by the inner end of the third cleaning elements as they pivot about 24, it changes geometry as portion 12 pivots). The Applicant does not further limit what the "inner end of each of the plurality of cleaning elements" is considered to be. The Examiner has interpreted Volpenhein's "inner ends of third cleaning elements" to include the element 12, as 12 is located at an inner end of the third cleaning elements. The Applicant has pointed out four situations where they feel that the discontinuity is defined by something other than the head or inner end of the plurality of third cleaning elements. In static condition (A), the discontinuity is defined by the head and perimeter edge of 12 as Applicant suggests, however the perimeter edge 12 is at the inner end of at least one of a plurality of third cleaning elements. In condition (B), the discontinuity is defined by the head and the inner end of some cleaning elements, and thus meets the claim. The Applicant suggests that in condition (B) a portion of the discontinuity is defined by the head and the outer end of some cleaning elements, however it would be impossible for this condition to occur, and it is believed that in Attachment A the Examiner does not show outer ends of cleaning elements defining any portion of the discontinuity. Further, stop 28 and groove

26 of Volpenhein act to limit how far the portion 12 is capable of rocking to prevent over-rotation or jamming/pinching. And in condition (B), similar to (A), the perimeter edge of rocking portion 12 is considered to be at the inner end of at least one of a plurality of third cleaning elements.

In conclusion, the Examiner considers the element 12 of Volpenhein to be located at an inner end of the plurality of third cleaning elements and considers Volpenhein to include all aspects of the discontinuity, *as claimed*.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Laura C Guidotti/  
Primary Examiner, Art Unit 3723

lcg